

U.S. Antarctic Marine Living Resources Program
2008-2009 Weekly Field Reports
Cape Shirreff, Livingston Island

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Seabirds:

1. With the completion of gentoo penguin crèche formation last week we have stopped monitoring the reproductive study nests for the season. In the end, 82% of the gentoo penguin nests were successful in crèching at least one chick, while 18% of the nests failed. In the four weeks since peak chinstrap penguin hatch 11% of the chinstrap penguin reproduction nests have crèched chicks, 61% are brooding chicks, 28% have failed.
2. We continue to monitor known age penguins that were banded here as chicks. All of the active nests of known aged gentoo penguins have crèched chicks. We have place bands on their chicks so that we can identify them in future years. In the end, 47% of the nests were successful in crèching at least one chick, while 53% failed. Chicks of the known aged chinstrap penguins have started to crèche. To date, 10% have crèched, 49% continue to brood chicks, and 41% nests have failed.
3. Of the 21 brown skua pairs that have initiated clutches 12 are brooding chicks, one continues to incubate, and 8 have failed.
4. We have retrieved 10 Time Depth Recorders (TDRs) and eight Satellite Transmitters (PTTs) from gentoo penguins with crèched chicks and four TDRs and six PTTs from chinstraps brooding chicks. We will continue to search for the remaining two PTTs in the coming week.
5. We continue to sample the diets of the penguins using the wet offloading technique. To date, we have collected 20 diet samples



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from chinstraps and 15 gentoos. Chinstrap diet samples have consisted almost entirely of Antarctic krill (*Euphausia superba*) with trace amounts of fish. Gentoo samples were a mix of Antarctic krill and fish. To date, we have found otoliths from the species *Pleurogramma antarcticum*, *Lepidonntothon kempii*, and *Electrona carlsbergii*.

6. We conducted the annual census of gentoo chicks on 20 January. We counted 1010 chicks, which is 6% higher than the previous 12 year average of 956. Overall reproductive success from census data is 1.15 chicks per nest.
7. On 23 January we weighed and banded 200 gentoo penguin chicks. In the future, resights of these birds will be used to determine cohort survival.

Pinnipeds:

8. We recovered all our remaining GPS/time depth recorder (GPS-TDR) instruments that were monitoring foraging locations since mid-December. All deployments were successful and recorded foraging trip locations for five females for 7+ trips each. We also recovered an additional two of the three ARGOS PTTs we had deployed. One female returned without her PTT. We have already deployed three of the five GPS units for February at-sea locations.
9. All of our 29 attendance study females have completed at least six trips to sea. Two females lost their pups before completing five trips and an additional two lost their pups before completing their sixth trip. To date nine of the original 29 have lost pups. Mortality rate since arrival of leopard seals has



increased to 20.3%, a four percent increase since last week.

10. Daily tag re-sights continued this week. We have re-sighted 115 fur seals tagged as pups in previous years. To date we have seen three yearlings (the 2007/08 year class). Tag loss in the population is high and we have increased our efforts this year to recapture animals that have lost a tag. Since captures began we have captured 102 adult females and juveniles and have replaced or pit tagged 44 missing tags.
11. Fur seal diet sampling continued this week with the collection of ten more scats, bringing our total to 60.
12. We have deployed 12 of 15 over-winter satellite relay data loggers on elephant seals. There have been no new returns of loggers from last year.
13. We tagged two more leopard seals this week bringing the total tagged this year to eleven. We have recorded an additional eight tagged from previous years.

Weather:

14. We had a high of 10.2 degrees Celsius and a low of 0.6. The average temperature for the week was 2.5 degrees Celsius (based on measuring temperature every 15 minutes). This is the third week in which temperatures were above freezing at night. Mean wind speed for the week was 11.6 and the max. gust was 39.0mph. We had more wind from the east and north than in previous weeks but westerlies still dominate. We had 0.55 inches of precipitation this week.



Camp:

15. Dry weather this week allowed for some additional painting of our camp's exterior. We now have approximately 80% of the exterior painted. We estimate that with only one or two days of dry weather we can complete the task this week.
16. We are all looking forward to the return of the *R/V Yuzhmorgeologiya* this Friday, 30 January. The *R/V Yuzhmorgeologiya* will pick up two scientists, Dr. Mike Goebel, NOAA, and Luis Huckstadt, University of California-Santa Cruz. Douglas Krause, NOAA, will disembark the ship and remain until camp closing on 6 March.

Submitted by AMLR staff currently residing at the Cape Shirreff field station, Livingston Island.

